Discover your world Engineering
Design, innovate, create.

Engineers help build the future, extend scientific progress, and improve global economies. The mission of Lancaster’s Engineering Department is to develop forward-thinking innovators who are able to overcome challenging problems using teamwork, originality, and a rigorous scientific acumen.

The expertise of our academic staff expands across a broad range of engineering disciplines, from additive manufacturing and materials to chemical-based areas like energy conversion, bio-reaction engineering, and fuel cells, to topics encountered in electronic and electrical engineering, like wireless communications, digital signal processing and power electronics.

The comprehensive teaching allows you to work with confidence across constantly changing technology areas in a dynamic learning environment.

Studying engineering involves cultivating a range of skills through theory and practice. We adopt a “learning-through-doing” approach, which constitutes solving real-world problems, such as you would expect to find in industry. This is fostered in a friendly environment – our technicians and support staff are approachable and have many years’ experience helping students achieve success.

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Disclaimer
The University makes all reasonable efforts to ensure that the information in this brochure is correct at the time of printing (June 2019). Please see lancaster.ac.uk/compliance/legalnotice for further information.
I am delighted to be inviting you to discover the exciting learning experience we offer in our Engineering Department.

You will be member of a vibrant engineering community and be immersed in a lively, exciting environment where teaching and research blends.

Our highly qualified academics and experienced staff will work with you for a smooth transition from school to the advanced studies you will complete at university. You will start from the fundamentals to master the high technical expertise that will make you a successful engineer.

It is an exciting time for the Engineering Department. Our beautiful and state-of-the-art building will soon be extended with a second brand new building hosting the latest technologies for new engaging teaching to immerse you in the future of engineering.

I look forward to meeting you to show you our unique learning environment and discuss your plan for a brilliant future in engineering.
The course for you

At Lancaster we take great pride in the engineering education we deliver. We equip you with not only the specialist knowledge and skills of your chosen engineering discipline but also in general engineering principles through our common first year. This allows you to go on to prosper in interdisciplinary work settings, rapidly adding value to your employer’s business immediately after graduation.

Engineering involves a lot more than just theory, and at Lancaster we adhere to the principles of CDIO™ (Conceive Design Implement Operate), giving you increasingly open ended real-world engineering problems to solve. Here you get frequent opportunities to apply your design capabilities, analytical skills and engineering knowledge in contextualised settings to propose, design, build, test and validate your practical solutions. Final year projects often have genuine positive impacts on local businesses and society through the devices and systems that are developed.

All academic staff are research active, meaning that specialist engineering modules are delivered by experts within their field. As a department we always seek to provide forward-thinking course content through engaging with engineering businesses, the professional engineering institutions (such as IET, IMechE and IChemE) and by responding to student feedback and comments.

Our undergraduate degrees start with a common first year regardless of which discipline you choose.

Your typical first year

11 hours of lectures
6 hours of lab and project work
19-22 hours of weekly contact
4 hours of maths workshops
1 hour of small group tutorials
Private study

Lectures
Lectures are very similar to classroom lessons you have experienced. They differ in that group sizes can vary between large and small numbers. The prime purpose of a lecture is to impart knowledge and to develop your understanding of a subject, so it is important to extract the content and the message of the information presented.

Tutorials
Engineering and mathematics modules are backed up by a scheme of weekly tutorial workshops in small groups of students with a member of academic staff as a tutor. For engineering tutorials there will be question sheets and exercises for you to complete as well as the opportunity to discuss the wider context of the work, ethics, careers and any other material important to your development as individual learners and professional engineers. Maths workshops are designed to help you apply your mathematical skills to other material covered in lectures.

Laboratory work and projects
In first year you will spend two afternoons per week on practical work in the laboratory or participating in computer programming sessions.

Independent learning
Approximately 50% of your time should be spent on independent learning. This includes reading and understanding notes from lectures, further reading, completion of coursework and practical work linked to modules and tutorials, and preparation for exams.

CDIO™
Conceive Design Implement Operate: our degrees are underpinned by the CDIO™ framework to prepare you, the next generation of engineers for industry careers. It provides you with an education stressing the engineering fundamentals that you set in the context of Conceiving, Designing, Implementing and Operating real-world systems and products.
Milola Ogundairo (Grizedale College)
is studying in her first year of MEng Hons Mechatronic Engineering

What made you choose Lancaster University?
One of the reasons I chose Lancaster was because I noticed how high Lancaster was in the league tables for Engineering. I also went to The Student Room (which is a website where students talk about university life) and Lancaster had really good reviews. So then I came for the Interview Day, and I liked the look of the campus and the current students I talked to also gave really positive feedback about Lancaster.

Has studying at Lancaster met your expectations?
I think, honestly, it’s surpassed my expectations! When I was looking at the Engineering page on the website I saw it had loads of contact hours and I really wasn’t looking forward to that. It’s not as bad as I thought it would be! The lecturers are really nice and students in the second and third year help you if you have questions. If I have questions or if I don’t understand something during the lectures I can go to the lecturer after the session and talk about it later.

What’s the atmosphere like in classes?
It’s a friendly environment where I feel like I can ask questions. And I ask a lot of questions! The labs are obviously louder and more lively than lectures because in lectures you have to listen to what tutors have to say. I feel like each lecturer has been able to explain concepts properly. In the labs, there is usually more than one instructor, so there’s enough help to go around if a lot of people are having trouble.

What is it like studying first year engineering?
I won’t say it’s easy but it’s fun! I know we have more lectures than other courses do but we have less reading, so we learn through lecturers explaining concepts, which I think is better than if you had to study it all on your own.

What has been your favourite part of first year Engineering?
I like the practicals when I know what I’m doing! Being taught something in the lectures, understanding it, and doing it in real life is pretty amazing.

Have there been any specific practicals which you particularly enjoyed?
In one of our first year design modules, we were tasked with designing a robot that could climb up a pipe. It was fun because we were put in groups and everyone got to throw their ideas in and we were able to design something really cool.

What’s the atmosphere like in classes?
It’s a friendly environment where I feel like I can ask questions. And I ask a lot of questions! The labs are obviously louder and more lively than lectures because in lectures you have to listen to what tutors have to say. I feel like each lecturer has been able to explain concepts properly. In the labs, there is usually more than one instructor, so there’s enough help to go around if a lot of people are having trouble.

What challenges have you faced since moving to Lancaster?
In university you need to be more independent and learn how to study on your own because no one’s going to hold your hand the whole way. That change is probably what’s most challenging.

Do you do anything interesting outside of your studies?
I’m trying to start doing more extracurricular activities – probably not going to do them now during exam season – but maybe next year I’ll do more because I do want to find something I like doing and Lancaster has so many options. I’ve tried parkour this year and it was quite fun but I’m thinking of doing dodgeball next year. I’ve also been to the Engineering Society socials a couple of times which has been a great way to meet people around the Department.

Why is Lancaster the place for you?
I think the campus itself is really nice. I love the way the campus looks. I had a friend from another university come over and she was really impressed with the library. She said “I can’t believe you have a tree in the middle of your library! That’s so cool!” I also like how there are so many different societies and options for you to choose from. And like I said before, I like how friendly the lecturers are.

A place for Milola

Milola Ogundairo (Grizedale College) is studying in her first year of MEng Hons Mechatronic Engineering.
Preparing for industry

All MEng students participate in industrial projects during their third and fourth years. These are real-life company problems which, whilst non-business critical, could still afford the companies involved meaningful time and progress.

Our excellent industry links allows us to source challenging and constructive projects, which are mutually beneficial to the companies and students involved.

All MEng programmes contain a major group project, providing opportunity for students to tackle a significant unfamiliar problem over the course of a year. The projects are regularly commended by external examiners, accreditation panels and members of industry. Katharine, Connor, Benedict, Tom and Robert are currently in the final stages of their group project.

Katherine Field, MEng Hons Mechanical Engineering Pendle College
Connor Lynch, MEng Hons Mechanical Engineering (Study Abroad) Furness College
Benedict Scorey, MEng Hons Mechanical Engineering Bowland College
Tom Hoyle, MEng Hons Mechanical Engineering Cartmel College
Robert Atkinson, MEng Hons Mechanical Engineering Pendle College

Describe the project you are currently working on.

Our job at the moment is to try and conduct a full design review of a mountain rescue stretcher. The current mountain rescue stretcher has been around for at least forty years. It weighs an absolute tonne so it needs redesigning to make it lighter! We’re also trying to improve its functionality, so rather than just adding a wheel we’re adding various things you can use in different mountain rescue situations.

This project followed on from one that Tom did last year—he made a wheel for a stretcher and our supervisor thought it would be worth doing a fourth year project on it so we have picked it up and carried on.

How have you applied what you have learnt throughout your degree in this project?

The compulsory modules this year involved how to approach a project, how to work as a group, and how to apply formal processes to projects. This was really useful because we’re able to apply what we learnt throughout this year in our project.

Your previous studies are subjective, based on what your previous projects were throughout the degree. This means we all come into a project with different specialisms. We’ve also been able to choose modules this year—Katherine was just studying materials, so she’s probably going to write the materials section of the written report. Because of this choice, there is the potential to diversify our skills and apply them to the project.

Katherine, Robert, Connor, Benedict and Tom

Does your project involve theoretical and practical work?

This project has involved going from initial ideas to designing the stretcher on computers, to then getting it made, then testing it—it’s been a complete process, which has been really good to see.

How different is working on a team project compared to working on solo projects?

It’s very different. I think when we start our careers, a really valuable skill will be teamwork. Obviously you can learn a lot of theory about it but the only way to actually learn about it is to do group work. The fourth year project is such a large piece of work spreading over an entire year, and that means that people can’t slack off and we learn how to work collaboratively. Lots of challenges come from this, not so much from the technical side of things.

There’s also a bit more responsibility given to you in fourth year because we’re actually working with the mountain rescue team, and if our stretcher passes its test it could be used out in the field! Unlike previous years, there are less projects being worked on, so each project is bigger and much more impactful.

What support have you received from the department throughout this project?

The technicians have all been great, they’ve all wanted to help. A lot of them have been excited about working on our project! We definitely wouldn’t have been able to do the project without the department’s help.

We’ve also been able to employ external specialist services to assist some manufacturing aspects such as welding titanium. Although our request to work with titanium was unusual, the department supported our decision to work with this material.

What advice would you give to someone who is about to embark on a 4th year group project?

Because you are given a lot of responsibility and it’s a big project to do over the year, try not to get overwhelmed, and also just to remember that we are still at university. This experience is really good as it’s preparing us for future jobs, but we don’t have to be too stressed about it…hopefully! That’s easier said than done.
Supporting your career aspirations

With a strong focus on industrial projects, internships and work experience, our degrees will provide you with the support you need to achieve your career aspirations. Our undergraduate degrees provide excellent employment prospects. We provide careers advice and host a number of events throughout the year, including a Science and Technology Annual Careers Fair.

Industrial experience

We actively encourage you to take time out of your degree to complete periods of time in industry, typically 12 to 15 months’ paid employment. These industrial opportunities can be arranged in conjunction with the University, directly with companies or through the Engineering Development Trust’s Year in Industry scheme.

Our strong industry links with both large corporations and small local companies mean that we can assist you to find a suitable and rewarding placement in a sector that interests you. As a student we can assist you to find a suitable and rewarding placement in a sector that interests you. As a student we can assist you to find a suitable and rewarding placement in a sector that interests you. As a student we can assist you to find a suitable and rewarding placement in a sector that interests you.

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Luca Canal
BEng Hons Chemical Engineering
Pendle College
Company: EDF Energy, Heysham 2 Power Station
Role: Fuel Route Technical Advice Group Engineer
Duration: 1 year

My role was to give technical advice on a variety of engineering problems and improvements to projects, as well as dealing with emerging deficiencies on plant. I have also had the opportunity to explore many more business areas as well as coordinating non-engineering initiatives and taking positions of leadership. Proactivity is a highly valued quality at EDF – energy and enthusiasm are rewarded with development opportunities. During my year, I have gained hands-on experience, project and people management skills, technical acumen and confidence in approaching novel situations, as well as soft skills.

Over the summer, I embarked on an academic research internship within the Department, which resulted in publishing a research paper and presenting my work at national and international conferences. I would recommend that everybody tries to gain some sort of relevant work experience at university, whether it is a summer internship or industrial placement.

Sophy Ellis
BEng Hons Mechanical Engineering
County College
Fuel Route Technical Advice Group Engineer
EDF Energy, Heysham 2 Power Station
Duration: 1 year

My job’s really varied, intense and sometimes very hard. I would have never got my job without the degree I did at Lancaster University.

Thinking about my degree from Lancaster, the most important skill I developed was learning to take things back to first principles. When you have a really complicated problem, being able to strip it back to its raw components is so important.

Completing the degree was really challenging but I learnt so much. Obviously, with engineering, it’s a very intense course. I had lots of reading, and I had to be on campus a lot. But because it’s intense and difficult, you come out of university and people want to employ you!

Jon Elmer
MEng Hons Mechatronic Engineering
Fylde College
Fylde College
Mechatronic Design Engineer
Science and Technology Facilities Council

I currently work at Jaguar Land Rover as a Project Manager overseeing ADAS (Automated Driver Assisted Systems) in their vehicles. ADAS is like a baby system building towards fully autonomous driving. We deliver set features such as Lane Keep Assist (which gently steers vehicles back to a lane) and Cruise Control with Speed Limiter that enables customers to be safer when driving.

Although I don’t do a typical engineering role at the moment, technical project management does require a lot of engineering acumen. My job also requires lots of soft skills. It’s making sure people are talking to one another when they need to (which is actually really hard!), knowing who people are, and making those connections.

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Our alumni

Our graduates are keenly sought after by employers in a range of industries, ranging from small local businesses to large international corporations. Our graduates find that developing their skills through project work and engaging with a close-knit student community helps prepare them for exciting industrial careers after leaving Lancaster.

I develop design and commission precision motion systems for the instrument suite at the ISIS Neutron and Muon Source near Oxford.

At Lancaster, I enjoyed the campus’ community atmosphere, and the balance between campus and city life. The teaching staff and technicians in the Engineering Department were all very approachable and helpful. I also enjoyed the different societies and sports teams, especially playing for the University water polo team. The dedicated Engineering Building is a great asset, and even though it only opened in my final year, having access to facilities that reflected industrial working environments like the open plan MEng lab prepared me for moving into a workplace environment.

Developing my knowledge through the common first year gave me a good grounding in engineering topics, which has been useful when communicating with people from different scientific disciplines at work.

Engaging with the MEng group project also offered me the opportunity to hone my project management skills which I use every day in my current role. I was able to work as a summer student within the Engineering Department, which strengthened my skills and gave me a broad range of project experience, which I have applied during my early career.
This year the Engineering Department celebrates its fiftieth anniversary, having been established in 1969. We have come a long way from our humble beginnings, growing from an initial small cohort of ten students to recent years welcoming 200 students onto our courses.

Although 50 years old, the Department remains faithful to its original roots, offering a general engineering experience that underpins the fundamental science and mathematics enabling graduates to thrive in a variety of careers and technologies. The ethos is perhaps even more prominent in a modern world where technology changes rapidly and interdisciplinary working is common.

Lancaster Engineering Alumni Mentoring Programme (LEAP)

One of the greatest challenges for future growth and leadership in the Engineering professions is the gender imbalance. Engineering at Lancaster is now undertaking positive action to address this and we are very pleased to announce, during our fiftieth year, the launch of our alumni mentoring scheme. As part of this, incoming female students will receive mentorship from past students based in a variety of industries and professions. We believe that providing positive role models and engagement with the profession opens up greater opportunities for curriculum and career enrichment, bolstering aspirations during their Lancaster University studies.

Tomorrow’s engineers

Having celebrated five decades of achievements and growth, we are looking ahead to the future to continue to invest in tomorrow’s engineers. As well as continuously investing in facilities available to students and staff for research and teaching, we are currently confirming plans for a new Engineering Building. This new construction will support our ambitions to ensure our students reach their potential with outstanding teaching facilities and new spaces to develop their practical skills. We anticipate new facilities to include larger capacity teaching laboratories for chemical, mechanical, and electronic disciplines, as well as an 80-seat lecture theatre featuring 3-D projection technology.
Our Department is one of only a handful of general engineering departments in the country offering an interdisciplinary experience typical of what you will face in modern industry. Our courses are designed to be flexible and adapt to your study needs. For example, BEng students who achieve 60% or higher can upgrade onto the MEng schemes.

Students on any of our courses are able to take part in a year in industry. This would provide you with valuable real-world experience and allow you to practise and enhance the skills you have gained during the programme.

All our degrees are externally accredited, offering a mark of assurance that the degree programme meets the standards defined and set out by the Engineering Council. Our three year BEng degrees meet partial fulfilment of the educational requirements of Chartered Engineer (CEng) status, whereas our four year MEng degrees meet the full educational requirements.

If you’re unsure of which area of specialisation you’d like to go into upon application, you can use the UCAS codes H100/H102: Engineering to leave your options open. Similarly, subject to meeting progression requirements, the common first year lets you change your specialisation allowing a more informed choice at the end of year one.

#7
for Chemical Engineering
in the UK
(The Complete University Guide 2020)

#1
for Chemical Engineering
graduate prospects
(The Complete University Guide 2020)

For more information visit www.lancaster.ac.uk/engineering
Electronic and Electrical Engineering

BEng – H607 3 years
MEng – H606 4 years

We live in an increasingly high-tech world where demand for electronic and electrical engineers is crucial to the design and manufacture of future systems in the medical, environmental, energy, transport, communications and ICT markets.

Your first year develops core general engineering and engineering mathematics skills, with specialisation in Electronic and Electrical Engineering from year two onwards. During your third year, you will have the opportunity to study an individual project under one-to-one tuition and guidance from our academic staff who are leading experts in the areas of electronics design, RF and wireless technologies, sensors and instrumentation, nanotechnology and renewable energy. Past projects include managing the UK’s contribution to the LHC upgrade at CERN; developing the electronics for the survey of polar ice melting; and leading the development of very high data rate transmission over mobile networks faster than 5G.

MEng students in fourth year will build upon the BEng degree by studying a higher level of technical understanding using cutting-edge technology as well as cultivating your leadership, entrepreneurial and management potential. This is achieved by engaging with two short industry-linked projects.

Our Electronic and Electrical Engineering programmes are accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council.

Lancaster is a University Partner within the UK Electronics Skills Foundation who connect the best capable electronics students at top UK universities with leading employers through a competitive scholarship scheme.

Typical entry requirements

A level
BEng AAB
MEng AAA

Required subjects
A level Mathematics and a physical science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics

GCSE minimum of five GCSEs at grade B or 5 with Mathematics at grade B or 6, and GCSE English Language at grade C or 4

IELTS 6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages

International Baccalaureate
BEng 35 points overall MEng 36 points overall - with 16 points from the best 3 Higher Level subjects including 6 in Mathematics HL and 6 in a Physical Science at HL

BTEC (2016 specifications)
Distinction, Distinction, Distinction required in an engineering related subject to include distinctions in the following units – Unit 1 Engineering Principles, Unit 3 Engineering Product Design and Manufacture, Unit 5 Microcontroller Systems for Engineers, Unit 7 Calculus to Solve Engineering Problems. Unit 8 Further Engineering Mathematics is highly recommended

We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualification.

Mechanical Engineering

BEng H300 3 years
MEng H303 4 years

Mechanical Engineering is a field covering any industry that uses mechanical systems, from construction to transport; medicine to manufacturing; renewable energy to consumer technology.

Project work plays a significant role in the development of your analytical ability and practical skills in dealing with complex systems. It also enhances your creativity for solving problems and producing innovative designs. Past projects have included high-lift aerodynamics for turbine blade design, microstructural design of steels for improving strength and toughness, design and testing of a novel concept in thermal management for electric vehicles and vibration energy harvest using piezoelectric sensors. Projects such as these help you gain solid experience and your combination of practical and analytical skills means you will have the option of entering an exciting variety of careers.

Our MEng programme builds upon the three year BEng scheme offering opportunities for you to develop your leadership, entrepreneurial and management potential as well as deeper understanding in technical challenge.

Our fourth year offers a diverse course structure that allows you to progress through a number of optional pathways –

• Advanced Manufacturing
• Energy and Resources
• Design

This part of the course operates with an alternating pattern of intensive two week taught modules followed by a week dedicated towards your group project work. Often linked with industry, these projects offer the pinnacle of achievement whilst at university and have been commended by external examiners and industry. In studying the MEng, you will undertake two short industry-linked projects. These will provide you with in-depth knowledge and highly valued project management and leadership experience.

Our Mechanical Engineering programmes are accredited by the Institution of Mechanical Engineers (I MechE) on behalf of the Engineering Council.

Typical entry requirements

A level
BEng AAB
MEng AAA

Required Subjects
A level Mathematics and a Physical Science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics.

GCSE Minimum of five GCSEs at grade B or 5 with Mathematics at grade B or 6, and GCSE English Language at grade C or 4

IELTS 6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages

International Baccalaureate
BEng 35 points overall MEng 36 points overall - with 16 points from the best 3 Higher Level subjects including 6 in Mathematics HL and 6 in a Physical Science at HL

BTEC (2016 specifications)
Distinction, Distinction, Distinction required in an engineering related subject to include distinctions in the following units – Unit 1 Engineering Principles, Unit 3 Engineering Product Design and Manufacture, Unit 5 Microcontroller Systems for Engineers, Unit 7 Calculus to Solve Engineering Problems. Unit 8 Further Engineering Mathematics is highly recommended

We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualification.
Mechatronic Engineering
BEng HH63 3 years
MEng HHH6 4 years

Our Mechatronic degree programme was the first of its kind in the UK, set up in 1984 in response to employers’ needs. Thirty years later, we continue to lead the field. Mechatronic engineering is the combination of mechanical, electronic and computer engineering.

Your course takes a multidisciplinary approach and focuses on product design and systems integration using embedded microcontrollers, computers and actuators. You will learn to master the software that drives this technology and use your new skills on individual and group projects such as equipping mobile robots with satellite navigation systems.

Upon graduating, you will be capable of applying new technologies, promoting advanced design and introducing new and more efficient production techniques or processes. The broad technical understanding and leadership skills gained within the MEng makes Mechatronic Engineering graduates particularly attractive to industrial employers. Furthermore, this specific discipline provides you with flexibility within your career, often enabling you to move towards management roles.

If studying the MEng, you will complete a major group project and two short industry-linked projects. Examples of these include, investigation into overheating in a dimmer switch, new product design for a multi-purpose unit in the domestic kitchen market, development of a whole body sleep movement sensor, development of an acoustic sensor for field environments (offshore and onshore) and design for a sports breathing training product.

Our Mechatronic Engineering programmes are accredited by the Institution of Engineering and Technology (IET) and the Institution of Mechanical Engineers (IMechE) on behalf of the Engineering Council.

State-of-the-art engineering building with specially designed workshops and laboratories

“Engineering at Lancaster provides us with a student-focused learning experience through a diverse curriculum that equips us with the necessary skills to become thriving professionals.”

Ahmed Negm
MEng Hons Mechatronic
Lonsdale College

Typical entry requirements

A level
BEng AAB
MEng AAA

Required Subjects
A level Mathematics and a Physical Science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics

GCSE
Minimum of five GCSEs at grade B or 5 with Mathematics at grade B or 6, and GCSE English Language at grade C or 4

IELTS
6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages.

International Baccalaureate
BEng 35 points overall MEng 36 points overall - with 16 points from the best 3 Higher Level subjects including 6 in Mathematics HL and 6 in a Physical Science at HL.

BTEC (2016 specifications)
Distinction, Distinction, Distinction required in an Engineering related subject to include Distinctions in the following units – Unit 1 Engineering Principles, Unit 3 Engineering Product Design and Manufacture, Unit 6 Microcontroller Systems for Engineers, Unit 7 Calculus to Solve Engineering Problems. Unit 8 Further Engineering Mathematics is highly recommended.

We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualification.

Nuclear Engineering
BEng H820 3 years
MEng H821 4 years

Studying nuclear engineering will equip you with the key skills to develop specialised knowledge to prepare you in your chosen career.

You will first study a broad range of topics, starting with engineering and engineering mathematics subjects. You then study a range of modules including Nuclear Medicine and Nuclear Instrumentation through to Nuclear Engineering Systems and Nuclear Safety. Through this, you will develop practical skills, test and analyse your design ideas in the laboratory or through computer simulation using engineering IT tools.

Our four year scheme is guided by world-leading research in nuclear instrumentation, nuclear decommissioning, and chemical processes. With our location relative to Sellafield Ltd, Westinghouse Springfields Fuels Ltd and many supporting specialist companies, this confirms us as an international leader in nuclear engineering systems. Our strong links with these industrial partners nuance your learning and help you gain insight into nuclear industries.

Nuclear applications cover a broad range of sectors from healthcare and cancer treatment through to power generation, national security and decommissioning activities. The nuclear industry is set to expand over the next ten years with an estimated international spend of around £930 billion. There is potential for the generation of 40,000 jobs in the UK sector with a diverse range of international opportunities.

Our Nuclear Engineering programmes are accredited by both the Institution of Engineering and Technology (IET) and the Institution of Mechanical Engineers (IMechE) on behalf of the Engineering Council.

13:1 high staff to student ratio

“The Nuclear Engineering course features a large number of practicals which aid the development of useful skills and reinforce content from lectures. The course covers many complex aspects of nuclear engineering in detail but also covers a wide range of broad engineering topics.”

James Fahy
MEng Hons Nuclear Engineering
County College

Typical entry requirements

A level
BEng AAB
MEng AAA

Required Subjects
A level Mathematics and a Physical Science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics.

GCSE
Minimum of five GCSEs at grade B or 5 with Mathematics at grade B or 6, and GCSE English Language at grade C or 4

IELTS
6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages.

International Baccalaureate
BEng 35 points overall MEng 36 points overall - with 16 points from the best 3 Higher Level subjects including 6 in Mathematics HL and 6 in a Physical Science at HL.

BTEC (2016 specifications)
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We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualification.
For more information visit www.lancaster.ac.uk/engineering

Engineering (Study Abroad)

BEng – H101 3 years
MEng – H104 4 years

If you take our Study Abroad variant, you will spend the second year of your course studying at a partner university in Europe, North America or Australasia and it is open to all our engineering programmes regardless of selected specialisation.

We match the appropriate modules that you would study at Lancaster with those of the overseas partner institution to ensure that you have appropriate skills and prerequisites for your return to Lancaster in Year three.

Many multi-national engineering companies recruit graduates with international awareness and a willingness to travel. If you want to kick-start your international career by having actual experiences abroad you can talk about then the Study Abroad route is something that you should strongly consider.

"I completed my Study Abroad year at Iowa State University. I really enjoyed my time abroad for many of the expected reasons; the travelling, meeting people and living in another country. Some of the discoveries I made, that I didn’t expect to make, made the best memories of my Study Abroad year. It massively opened my eyes to the uniqueness of people and that no matter how similar countries in the west might seem they are very different. I fully intend on going back!"

Kaymen Lewis-Johnson
BEng Hons Electronic and Electrical Engineering (Study Abroad)
Cartmel College

Typical entry requirements

A level
BEng AAB
MEng AAA

Required Subjects
A level Mathematics and a Physical Science, for example, Physics, Chemistry, Electronics, Computer Sciences Design & Technology or Further Mathematics

GCSE Minimum of five GCSEs at grade B or 5 with Mathematics at grade B or 6, and GCSE English Language at grade C or 4

IELTS 6.5 overall with at least 5.5 in each component. For other English language qualifications we accept, please see our English language requirements web pages

International Baccalaureate
BEng 35 points overall MEng 36 points overall - with 16 points from the best 3 Higher Level subjects including 6 in Mathematics HL and 6 in a Physical Science at HL

BTEC (2016 specifications)
Distinction, Distinction, Distinction required in an Engineering related subject to include Distinctions in the following units – Unit 1 Engineering Principles, Unit 3 Engineering Product Design and Manufacture, Unit 6 Microcontroller Systems for Engineers, Unit 7 Calculus to Solve Engineering Problems. Unit 8 Further Engineering Mathematics is highly recommended.

We welcome applications from students with a range of alternative UK and international qualifications, including combinations of qualification.
Module guide

YEAR 1

All our undergraduate degrees start with a common first year, regardless of which discipline you choose, where you’ll study the following modules:

- Mechanics of Materials
- Manufacturing Fundamentals
- Electrical & Electronic Fundamentals
- Fundamentals of Digital Electronics
- Engineering Thermodynamics
- Heat Transfer
- Design, Innovation & 3-D Thinking
- Process Engineering Fundamentals
- Fundamentals of Chemistry for Engineers
- Engineering Mathematics I
- Engineering Mathematics II
- Engineering Mathematics III
- Engineering Mathematics IV

www.lancaster.ac.uk/engineering/undergraduate/courses - for more detailed information on the modules

YEAR 2

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* Modules listed are correct at the time of printing and are subject to change

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YEAR 4

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www.lancaster.ac.uk/engineering/undergraduate/courses - for more detailed information on the modules

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Supporting your studies

We pride ourselves on the wide range of services and support available to all our students.

Small group weekly tutorials
You will meet weekly with an allocated member of academic staff to reinforce what you have learnt in lectures, discuss the wider engineering context, and to provide a forum for professional and personal development.

Moodle
Moodle is our online platform that provides information and resources to support your learning. Lecturers utilise Moodle in a variety of ways such as delivering learning materials, opening up virtual discussion spaces, and updating you on course-related information.

Maths support
The University has a full time dedicated maths tutor who works closely with the Engineering Department to help provide extra support through workshops, tutorials, and one-to-one sessions.

Disability services
Many students have medical conditions or impairments that can impact upon University life. If you have a condition that is classified as a disability, the Disability Service can help put in place various forms of support.

Careers
We provide careers advice and host a number of events throughout the year, including a dedicated Science and Technology Careers Fair. You will have access to our excellent Careers Service, which provides an innovative service for students and graduate employers. We offer lifetime support, help and advice to all of our students.

We’re here for you!

We would love to welcome you to campus during one of our events. To find out more visit: lancaster.ac.uk/visitus

Open Days
Join us at one of our Open Days to explore our beautiful 560-acre campus first-hand. You will have the opportunity to tour our award-winning accommodation, refurbished library, the Students’ Union and sports facilities. You can also visit the Engineering Department where you can chat to our academic staff and tour the striking Engineering Building.

Campus Tours
The University organises regular campus tours to acquaint you with our friendly campus. With the guidance of the University’s enthusiastic student ambassadors, you will see our accommodation, study facilities and social spaces.

Applicant Visit Days
If you are offered a place on an engineering degree, you will be invited to visit the University at an Applicant Visit Day. Depending on the degree scheme you have applied for you may be invited to an interview. You will spend the day with current engineering students, meet academic staff members and immerse yourself within our engineering facilities. These exciting days are designed to give you a taste of how it feels to live and study at Lancaster.

Get in touch
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Lancaster.University.Engineering
lancaster_uni_engineering